

ABSTRACT

This invention provides efficient HCV replicase complexes comprising novel RNA template and primer pair. Assay systems are also provided, which use such complexes, for
5 detecting replicase activity, quantitatively studying the kinetics and mechanism of HCV
NS5B-catalyzed nucleotide incorporation, and identifying inhibitors of HCV replicase. The
assay systems use small and well-defined synthetic RNAs which allow efficient assembly of
all catalytic components in the quaternary complex for HCV NS5B-directed RNA replication.
Specific template-primer requirements for efficient RNA synthesis by HCV NS5B replicase
10 are provided for use in assay systems.